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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,322	04/12/2001	Oktay Necip Gunluk	Gunluk 2000-0484	3497

7590 01/26/2005	EXAMINER
Henry T. Brendzel	THOMSON, WILLIAM D
P.O. Box 574	
Springfield, NJ 07081	

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 October 2004</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-10 have been presented for reconsideration in view of Applicants amendments

and arguments. The Prior Art rejections of Claims 1-10 have been reconsidered and upheld.

Response to Arguments

2.   Applicant's arguments submitted on 10/28/2004 have been fully considered. The

Examiner's response is as follows.

   2.1   Regarding the Applicant's response to the 35 U.S.C. 112 rejections of Claims 1-

10 in the First Office Action.

          The Examiner thanks the Applicant for the instant amendment to the claims,

specifically to **Claim 1** and **Claim 10** and withdraws the earlier 35 U.S.C. 112 rejections of those

claims.

   2.2   Regarding the Applicants response to the 35 U.S.C. 102 rejections of Claims 1-

10 in the First Office Action.

          Applicant argued, *(page 6 of the 10/28/2004 response)*

          In contradistinction, claim 1 defines a method where the first
step specifies a step of identifying a set of feasible rings of the network.
That is, even before the loading on the Network is considered, a set of
feasible rings is identified. No such step is executed in the '367 reference
method.

          The Examiner respectfully traverses Applicants argument. The Examiner notes

that in the cited reference the following is disclosed, *"Finally, the optimal traffic iteration*

decides how the point-to-point demand should best be routed among established rings. (Col. 8

Lines 12-2, Cox, Jr. et al. U.S. Patent 5,515,367). It would be *inherent* that for the planning

system in the *Cox et al.* reference to function correctly, that the set of feasible rings would have

to be identified in order to decide how the point-to-point demand should best be routed, *See Atlas*

Powder Co. v. IRECO, Inc., 190 F.3d 1342, 51 USPQ2d 1943 (Fed. Cir. 1999).

> Applicant further argued, *(page 7 of the 10/28/2004 response)*

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        The second step of claim 1 specifies a process for identifying a
routing that minimizes "both the number of traffic demands that are not
routed and an overall routing metric.'' The Examiner asserts that this step
is disclosed in col. 8, lines 31 et seq. Applicants respectfully disagree.
The expression that is minimized in the '367 reference is found at col. 9,
lines 42-44 minimizes a sum that involves a discounted fixed cost of ADMs
(a_{jk}) discounted optical inter-ring traffic cost of (b_{jk}) and discounted
optical inter- ring traffic costs (b_{jk}). Clearly, that is not a minimization
of the number of traffic demands that are not routed.
```

The Examiner respectfully traverses the Applicant's arguments, it is noted that in Col. 8

lines 60-62, *"The other components are added based on how much traffic that needs to be added*

or dropped from the ADM." The Examiner asserts that *dropped* traffic is functionally equivalent

to *traffic demands that are not routed*, i.e. *dropped.* Therefore the Claimed limitation as argued

by the Applicant is disclosed in the *Cox Jr. et al.* reference.

> Applicant further argued, *(page 7 of the 10/28/2004 response)*

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        The third step of claim 1 specifies identifying a set of rings from
among the set of feasible rings that was identified in the first step. Since
the set of feasible rings was not identified, it follows that the third step
is not executed. Additionally, as indicated above, the '367 reference method
does not identify a set of rings that minimizes a ring assignments cost
measure that includes a cost associated with not covering the routed demand
rings.
```

The Examiner respectfully traverses the Applicant's argument. It is noted by the

Examiner that in Col. 7 Lines 23-30, *"As those skilled in the art will recognize, each node on the*

unidirectional path switched ring of FIG. 6 provides add/drop functionality. Unlike the linear

add/drop network of FIG. 5, the path-switched ring does not require directional provisioning,

since each circuit on the ring is carried all the way around the ring in both directions where it

enters and leaves the ring. " Further in col. 7 lines 31-48 is described the *self-healing"* capability

of the fiber rings. The Examiner notes that the use of FDDI fiber rings, which must detect and

identify *feasible* rings for use in a SONET ring, is well known in the art. As disclosed by the *Cox*

Jr. et al. reference, those skilled in the *FDDI,* networking art, understand, that for purposes of

having a robust high-speed fiber optic network, it is *inherent* that all loops in the network will be

identified and all *sets* of rings in such a network are identified, the Examiner also directs the

Applicant to Col. 11 Lines 29-37. As regards the limitation of teaching ring assignment costs

please see Col. 11 Lines 38-52.

Applicant further argued, *(page 7 of the 10/28/2004 response and in regards to Claim 2)*

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        The cited text does not speak of "fixed ring capacity," and indeed at
Col. 9 Line 65 there is an expression, which limits the number of nodes in a
ring to a specified ring size. However, claim 2 specifies that the constraint
specified in claim1 requires "a feasible ring to have not more than a given
number of nodes, and having a mileage cost that is not more than a given
mileage cost, "(emphasis supplied). It is respectfully submitted that the
limitation expressed in the bold letters is not described or suggested by the
'367 reference and, therefore, claim 2 is not anticipated by the '367
reference independently of the fact that it depends on claim1.
```

The Examiner respectfully traverses Applicant's argument. Please see Col. 11 Lines 29-

37, and specifically line 36 where the term *"fixed ring capacity"* is disclosed.

As regards the Applicant's arguments regarding claim 5, the Examiner respectfully

traverses these arguments and maintains that the *Cox Jr. et al.* reference discloses either the exact

limitations or the functional equivalent of those limitations claimed.

The Examiner has found Applicant's arguments to be unpersuasive and upholds the

earlier 35 U.S.C. 102 rejections of Claims 1-10.

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
sale in this country, more than one year prior to the date of application for patent in the United States.

3.   **Claims 1-10** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cox, Jr.

et al. (367).

3.1   Taking **claim 1**, for example, Cox, Jr. et al. (367) teaches A method carried out in

a computer for provisioning rings in a ring-based network having a given topology of nodes and

logical links that interconnected said nodes, and a set of traffic demands that is desired for said

network to carry comprising the steps of **(See Abstract, figures 9, 10, and 11, col. 4, lines 23 et**

seq.) executing a process that identifies a set of feasible rings in said network, which is a subset

of all possible rings in said network that satisfy a given constraint; **(col. 6, lines 25 et seq., col. 7,**

lines 49 et seq.) executing a process of identifying a routing for the traffic demands in said set of

traffic demands, while aiming to minimize both number of traffic demands that are not routed

and an overall routing metric, where the routing metric is a cost measure that is associated with

using one of said logical links in a routing path of a demand;**(col. 8, lines 31 et seq.)** identifying

a set of rings from among a set of feasible rings that minimizes a ring assignments cost measure

that includes a cost associated with not covering routed demands with rings and a cost associated

with using rings to cover demands; and **(col. 8, lines 53 et seq, and col. 11, lines 38 et seq..)**

outputting the set of rings developed by said step of identifying for provisioning said nodes of

said network.**(col. 11, lines 8 et seq.)**

3.2   As to **claim 2**, the method of claim 2 where said constraint requires a feasible ring

to have not more than a given number of nodes, and have a mileage cost that is not more than a

given mileage cost is taught in Cox et al. at **col. 11, lines 29 et seq.**

3.3   As to **claim 3**, the method of claim 1 further comprising the step of provisioning

said nodes of said network in accordance with said set of rings developed by said step of

identifying is taught in Cox et al. at **col. 11, lines 29 et seq.**

3.4   As to **claim 4**, the method of claim 3 where said provisioning is accomplished

through electronic transmission of information from said computer to said nodes of said network

is taught in **Cox et al. at col. 11, lines 29 et seq.**

3.5   As to **claim 5**, the method of claim 1 where said process of identifying a routing

for the traffic demands:

(a) considers a routing path for each of said demands, starting with the demand having a lowest

routing path cost, based on a table that identifies a path having a lowest routing path cost for

each arbitrary pair of nodes of said network;

(b) assigning a demand to said path having said lowest routing path cost, if capacity exists on

said path having said lowest routing path cost;

(c) assigning said demand to a path having a higher routing path cost if capacity

does not exist on said path having said lowest routing path cost; and

(d) leaves said demand un-routed if capacity does not exist on any path that can

carry said demand, thereby obtaining an identified routing of said demands is taught in Cox et al.

at **col. 9, lines 20 et seq., and col. 12, lines 14 et seq.**

3.6   As to **claim 6,** the method of claim 1 where said process of identifying a routing

for the traffic demands employs a shortest routing path metric is taught in Cox et al. at **col. 9,**

lines 20 et seq., col. 11, lines 17 et seq., and col. 12, lines 14 et seq.

3.7   As to **claim 7,** the method of claim 1 where said process of identifying a routing

for the traffic demands identifies a set of demand routings A by:

(a) considering a routing path for each of said demands, starting with the demand

having a lowest routing path cost, based on a table that identifies a path having a lowest routing

path cost for each arbitrary pair of nodes of said network;

(b) assigning a demand to said path having said lowest routing path cost, if

capacity exists on said path having said lowest routing path cost;

(c) assigning said demand to a path having a higher routing path cost if capacity

does not exist on said path having said lowest routing path cost;

(d) leaving said demand un-routed if capacity does not exist on any path that can

carry said demand, thereby obtaining a first identified routing of said demands, B;

(e) changing order in which said demands are considered and repeating steps (b), (c), and (d) to

result in a second identified routing of said demands, C; and

(f) assigning A=B when number of un-routed demands in B is less than number of un-routed

demands in C, and A=C when number of un-routed demands in B is not less than number of un-

routed demands in C is taught in Cox et al. at **col. 9, lines 20 et seq., and col. 12, lines 14 et seq.**

3.8   As to **claim 8,** the method of claim 7 where said table is pre-computed is taught in

Cox et al. as the demand matrix and associated planner as shown in Figure 11 and discussed, for

example in **col. 11, lines 1 et seq., col. 9, lines 20 et seq., and col. 12, lines 14 et seq.**

3.9   As to **claim 9,** the method of claim 1 where said step of identifying a set of rings

employs an integer linear programming module to obtain said set of rings that minimizes said

ring assignments cost function is taught in **Cox et al. at col. 9, lines 20 et seq., and col. 12, lines**

14 et seq.

3.10   As to the formula as recited in claim 10, Cox, Jr. et al teaches the equivalent

relationships for assignments of cost at Cox et al. at **col. 9, lines 20 et seq., and col. 12, lines 14**

et seq.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

5.   The prior art made of record on the P.T.O. 892 has not been relied upon and is considered

pertinent to applicant's disclosure. Careful consideration of the cited art is required prior to

responding this Office Action, see 37 C.F.R. 1.111 (c).

CONTACT INFORMATION

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to William D. Thomson whose telephone number is 703-305-0022.

The examiner can normally be reached on 8:30-3:30 Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Kevin Teska can be reached on 703-305-9704. The fax phone number for the organization

where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be

obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

William Thomson

A.U. 2123

Primary Examiner

June 24, 2004